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Gleann Mor Barabhais

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Small scale sampling and radiocarbon result

A walk-over survey conducted along Gleann Mor Barabhais in September 2013 identified a fluvial deposit containing burnt material in the interior of Lewis (DES 2014:190-191 – figure 1). Environmental processing of a 3.5l bulk sample produced charred plant macrofossils, including deciduous round-wood charcoal, most likely Calluna sp., and small seeds of heathland species. A single entity AMS radiocarbon date was obtained from a round-wood charcoal fragment of 5583±27 (SUERC-55370), which places it in the late Mesolithic of Scotland.

Two soil micromorphology samples were also taken for routine tests and soil micromorphology analysis to establish the site formation process. Initial magnetic susceptibility tests show that the material had not been burnt in situ and the clay laminations within the deposit indicate it had probably been deposited through fluvial action.

It is as yet unknown whether the palaeobotanical remains from Gleann Mor Barabhais Site 30 derive from anthropogenic activity or natural causes. However, it is certain that at some point between 4460-4355 cal. BC an area of moorland was subject to an episode of fire, which charred the local vegetation. The carbonised remains were then incorporated in to the river system and deposited in a floodplain, which frequently became encroached by a body of slow-moving water, such as a localised flood event.

Fire incidence during the Mesolithic is well known from loch cores in Lewis and South Uist where pollen and microcharcoal profiles indicate burning of woodland followed by expansion of heathland taxa into the resultant clearings. The subsequent implications for the deliberate use of fire as an ecological management strategy in the Mesolithic have been widely debated, yet intentional, sustained and widespread burning of moorland during this period has only been confirmed in England. Therefore, the charred plant macrofossils at Gleann Mor Barabhais Site 30 represent the first direct palaeoenvironmental evidence for vegetation disturbance in the interior of the Western Isles. Further testing of the data is on-going to determine whether this may represent possible evidence for Mesolithic fire ecology though heathland management.

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Figure 1: Eroding section of Gleann Mor Barabhais Site 30; the sampled deposits containing charred plant macrofossils of Mesolithic date were recovered from the lower dark layer, above the waterline (Copyright P Rowley-Conwy)